Botany worksheet for
Feather River RD Abandoned Mine Closures 2018
(short form Biological Evaluation/ Biological Assessment/ Noxious Weed Risk Assessment)
by Lawrence Janeway 11/2/2018

My comments are based on FR GIS layers and written records for survey areas, occurrences of species of conservation concern (rare plants: USFWS T&E, FS Sensitive, and PNF Watch List), and infestations of NNIP (non-native invasive plants).

PROJECT DETERMINATION SUMMARY

Survey summary:

- Complete.

Species of Conservation Concern (rare plants) summary:

- No concerns.

Non-native invasive plants (NNIP) summary:

- There are concerns about NNIP that might be encountered along roads used to access the work sites. Follow standard best management practices regarding NNIP to prevent or reduce the potential for inadvertent spread of NNIP. These measures include but are not limited to the following best management practices (see also Attachment A):
    - As much as practical, work crews should be able to recognize and avoid contact with invasive plant species that might be found in the area and the soil under them (which will contain seeds).
    - When feasible, work crews should eradicate any NNIP encountered during project activities.
    - Construction equipment brought into project work sites should be washed or cleaned prior to entry to Forest Service lands.
    - Avoid locations of known NNIP, including soil where such plants have been growing, on a work site or in accessing that work site.
    - If construction equipment encounters invasive plant species, including soil where such plants have been growing, on a work site or in accessing that work site, the equipment should be washed or cleaned before moving to another work area.
    - Minimize ground disturbance during project activities.
    - Use only weed-free mulch and fill materials.
    - Notify District botanist about any NNIP encountered or eradicated.

PROJECT

These abandoned mines currently pose a safety and health risk to the public. There are open adits, surrounded by unstable rock and possibly trash at some sites. Within the underground workings, unstable rock, rotting timbers, rusting metal, bad air, low oxygen levels, deep water, and other unknown hazards may exist. Bat habitat may also be present in the mines. The purpose of this project is to improve the health, safety, and resource condition of the site.

The initiation of this project meets the national interagency (BLM/FS) efforts to reclaim abandoned mine lands sites to minimize the environmental, human health, and safety hazards at abandoned mines, while preserving the historic and wildlife habitat resources that they provide.

The proposed action includes closing the abandoned mine openings and removal of any modern trash on the sites. Items identified as historical will not be disturbed. Brush and logs may be cleared along the old access roads just enough to allow access by vehicles or quads.

Four abandoned mine sites are proposed for 2019 treatment:

- Center 5 T19N, R6E, Section 5
- Quartz T19N, R6E, Section 4
- Gould T19N, R6E, Section 5
- Morningside T19N, R6E, Section 3

SURVEYS

Complete surveys via four surveys by Forest Service botanists:

- Center 5 in 2018 – survey #051103_2018_007 (for this project).
- Quartz in 2015 – survey #051103_2016_021 (for the Forbestown project)
- Gould in 2018 – survey #051103_2018_008 (for this project)
- Morningside in 2015 – survey #051103_2015_006 (for the Forbestown project)

Survey summary: COMPLETE.

SPECIES OF CONSERVATION CONCERN (RARE PLANTS)

No plant species of conservation concern are known from close enough to any of the abandoned mine sites to be of any concern. Those species that are known from the general vicinity of the work sites (Table 1) are not present at or adjacent to the work sites, along the off-road travel routes to the work sites, or in any places that could potentially be affected by project implementation.

Table 1. Species of Conservation Concern (rare plants) known from within 1 ½ miles of the 2018 Abandoned Mine Closure sites and nearest occurrence of each to each site.

Species name	management category	Center 5	Quartz	Gould	Morningside
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*	PNF Watch List	0.5 miles	0.1 miles	0.5 miles	1.1 miles
Mosquin's clarkia *Clarkia mosquinii*	FS Sensitive	0.4 miles	0.1 miles	0.4 miles	0.6 miles
minute pocket moss *Fissidens pauperculus*	FS Sensitive	1.5 miles	0.8 miles	1.3 miles	0.5 miles
Butte County fritillary *Fritillaria eastwoodiae*	FS Sensitive	0.5 miles	0.1 miles	0.1 miles	0.3 miles
Humboldt lily *Lilium humboldtii* ssp. *humboldtii*	PNF Watch List	0.5 miles	0.2 miles	0.1 miles	0.5 miles
mutant tanoak *Notholithocarpus densiflorus f. attenuatodentatus*	research interest	no	1.3 miles	no	0.1 miles
Bacigalupi's yampah *Perideridia bacigalupii*	PNF Watch List	0.6 miles	0.2 miles	0.2 miles	1.1 miles

Species of Conservation Concern (rare plants) summary:

- *No concerns.*

NON-NATIVE INVASIVE PLANTS (NNIP)

No non-native invasive plants (NNIP) are known from close enough to any of the abandoned mine work sites to be of a direct concern (Table 2). Those species that are known from the general vicinity of the work sites (Table 2) are not present at or adjacent to the work sites or along the off-road travel routes to the work sites. However, a number of NNIP are known from along public and Forest Service roads that may be used to access the work sites. Care should be taken to avoid parking vehicles or stockpiling supplies in infested locations. Rather than try to flag off all these infested sites along the access roads, a number of measures (Best Management Practices) should be undertaken to prevent or reduce the possibility of spreading weed seeds and plants into the work sites.

Table 2. Non-native invasive plants (NNIP) known from within 1 ½ miles of the 2018 Abandoned Mine Closure sites, the nearest occurrence of each species to each work site, and the nearest access road with an infestation of the species.

Species name	Center 5	Quartz	Gould	Morningside
barbed goatgrass *Aegilops triuncialis*	1.1 miles - none	0.5 miles - none	1.1 miles - none	0.8 miles - none
Italian thistle *Carduus pycnocephalus*	0.8 miles - Lower Forbestown Road	0.6 miles - Lower Forbestown Road	1.0 miles - Lower Forbestown Road	0.8 miles - Lower Forbestown Road
meadow knapweed *Centaurea jacea*	no	1.0 miles - none	1.3 miles - none	0.4 miles - none
yellow star-thistle *Centaurea solstitialis*	0.4 miles - Ponderosa Way	0.2 miles - Ponderosa Way	0.3 miles - Ponderosa Way	0.6 miles - none
skeletonweed *Chondrilla juncea*	0.4 miles - Ponderosa Way	0.1 miles - Ponderosa Way	0.5 miles - Ponderosa Way	0.6 miles - Lower Forbestown Road
Scotch broom *Cytisus scoparius*	0.5 miles - Ponderosa Way	0.3 miles - Ponderosa Way	0.1 miles - 20N24B	0.4 miles - none
stinkwort *Dittrichia graveolens*	0.5 miles - 20N24B	0.6 miles none	0.1 miles - 20N24B	no
Medusa head *Elymus caput-medusae*	0.9 miles - none	0.4 miles - none	0.7 miles - none	0.9 miles - none
French broom *Genista monspessulana*	0.6 miles - Ponderosa Way	0.5 miles - Ponderosa Way	0.2 miles - Ponderosa Way	0.3 miles - Forbestown Rd

<u>Best Management Practices regarding non-native invasive plants (NNIP)</u>

Standard non-native invasive plant (NNIP) prevention measures should always be employed. These measures include but are not limited to the following best management practices (see also Attachment A):

- As much as practical, work crews should be able to recognize and avoid contact with invasive plant species that might be found in the area and the soil under them (which will contain seeds).
- When feasible, work crews should eradicate any NNIP encountered during project activities.
- Construction equipment brought into project work sites should be washed or cleaned prior to entry to Forest Service lands.

- Avoid locations of known NNIP, including soil where such plants have been growing, on a work site or in accessing that work site.
    - If construction equipment encounters invasive plant species, including soil where such plants have been growing, on a work site or in accessing that work site, the equipment should be washed or cleaned before moving to another work area.
- Minimize ground disturbance during project activities.
- Use only weed-free mulch and fill materials.
- Notify the District botanist about any NNIP encountered or eradicated.

Non-native invasive plants (NNIP) summary:

- *There are concerns about NNIP that might be encountered along roads used to access the work sites. Follow standard best management practices regarding NNIP to prevent or reduce the potential for inadvertent spread of NNIP.*

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ATTACHMENT A

Non-native Invasive Plant and Noxious Weed Prevention and Treatment Plan

In accordance with the Plumas National Forest Land and Resource Management Plan (LMP 1988), the Sierra Nevada Forest Plan Amendment 2004 (SNFPA ROD), and Forest Service Manual direction (FSM 2900 – Invasive Species Management).

Non-native Invasive Plant and Noxious Weed Mitigation Measures:

1. **Control:** If noxious weeds are found in or adjacent to a site-specific project area, the Forest Service will evaluate treatment options relative to the risk of weed spread without treatment and evaluate control methods at the site-specific planning level. The applicant shall treat small isolated populations of noxious weeds that can effectively be controlled before they are able to spread to adjoining areas. This is in keeping with the second priority given in the Forest Service Manual, to "conduct early treatment of new infestations" prior to project implementation and avoid known noxious weed sites during project implementation to prevent further spread of the infestation in keeping with the third priority.

2. All **off-road** equipment and vehicles used for project implementation shall be weed-free. Clean all equipment and vehicles of all attached mud, dirt, and plant parts prior to entering National Forest Systems lands. **Cleaning is not required for vehicles that will stay on a paved roadway.** All off-road equipment must be cleaned prior to leaving areas infested with noxious weeds.

3. All earth moving equipment, gravel, fill, or other materials need to be weed-free. Use onsite sand, gravel, rock or organic matter where possible.

4. During periods of reclamation, use weed-free mulches and seed sources. Avoid seeding in areas where revegetation will occur naturally unless noxious weeds are a concern. Save topsoil from disturbance and put it back to use in onsite revegetation unless contaminated with noxious weeds. All activities that require seeding or planting will need to use only locally collected native seed sources. Plant and seed material should be collected from as close to the project area as possible, from within the same watershed and at a similar elevation whenever possible. Persistent non-natives such as timothy, orchardgrass or ryegrass should be avoided.

5. Do not stage equipment, materials or crews in noxious weed infested areas where there is a risk of spread to areas of low infestation.

6. Plumas NF offices have a small booklet available to help aid in identification of noxious weeds that can be provided on request. The title is "Invasive Plants of the Plumas National Forest," Forest Service publication R5-TP-036.

7. Notify the Feather River Ranger District botanist if noxious weeds are found.